

REMARKS

This is in response to the Office Action issued on April 25, 2003. By this Response, claim 24 is amended to correct clerical error on dependency. No new matter is introduced. Claims 1-24 are active for examination.

The Office Action allowed claims 16, 17, 23 and 24, and rejected claims 1-4, 9-10 and 18 under 35 U.S.C. §103(a) as being unpatentable over UK patent application GB2073464 ("the UK application") in view of Sievers et al. (U.S. Patent No. 4,379,990); and claims 11-15 under 35 U.S. C. §103(a) as being unpatentable over the UK application in view of Sievers and Bertness (U.S. Patent No. 6,331,762). Claims 5-8 and 19-22 were objected to for depending on a rejected claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claim. The rejections and objection are respectfully traversed in view of the remarks presented herein.

THE OBVIOUSNESS REJECTIONS ARE TRAVERSED

Claims 1-4, 9, 10 and 18 were rejected as being unpatentable over the UK application in view of Sievers. The rejection is respectfully traversed because the cited references cannot support a *prima facie* case of obviousness.

A *prima facie* case of obviousness under 35 U.S.C. § 103 requires that there must be some suggestion or motivation in the references themselves to modify the reference or to combine reference teachings. In addition, there must be a reasonable expectation of success for the modification or combination of references. Further, the teaching or suggestion to make the modification or combination of prior art and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The teachings, motivations or suggestions to combine references must be based on objective evidence of record and cannot be resolved on subjective

belief and unknown authority. *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002). Additionally, there must be particular finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge to the claimed invention to combine or modify references. *In re Kotzab*, 217 F.3d 1365, 55 U.S.P.Q.2d 1313 (Fed. Cir. 2000). The references, however, do not meet these requirements.

Claim 1 recites:

A method for evaluating operation of an alternator comprising:
detecting a frequency component of an alternator output signal representative of a rectified output of the alternator;
comparing the frequency component of the alternator output signal with a threshold frequency; and
evaluating operation of the alternator based on a result of the comparing step.

In rejecting claim 1, the Examiner asserted that the UK application, if combined with Sievers, teaches every limitation of claim 1. Applicants respectfully disagree because there is no proper motivation to combine the references.

The UK application is related to a control system for an engine-driven alternator that detects an alternator frequency and compares the detected frequency with a preset frequency. If the detected frequency is lower than the preset frequency, the system generates a warning signal. The Office Action correctly recognized that the UK application fails to describe that the alternator output signal represents a rectified output of the alternator. However, the Office Action erred by combining the UK application with Sievers.

Although Sievers describes evaluating ripple voltages of a rectified alternator output to determine health of the alternator, Sievers does not describe or suggest using ripple frequencies of the rectified alternator output to evaluate health of the alternator. See Figs. 1 and 2; col. 5, lines 47-56; and col. 13, line 6 through col. 16, line 21. The Office Action nevertheless contended that it would be obvious to modify the UK application "to detect the frequency

component from a rectified alternator output signal, as taught by Sievers, in order to smooth out the alternator output signal, therefore, more accurately determine the frequency component of the alternator output signal." See page 3, first paragraph of the Office Action. (emphasis added)

It is respectfully submitted that the motivation contended by the Examiner to combine the UK application and Sievers is improper, as any teachings, motivations or suggestions to combine references must be based on objective evidence of record and cannot be resolved on subjective belief and unknown authority. *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002). There is no objective evidence in the references of record to support the Examiner's contention that the combination is desired "in order to smooth out the alternator output signal, therefore, more accurately determine the frequency component of the alternator output signal." Thus, the contended motivation is groundless and is impermissible hindsight that comes from the applicants' own disclosure. If the Examiner believes that a legitimate motivation exists to combine the references, production of objective evidence showing the motivation to combine the references is respectfully requested. Otherwise, the Examiner should allow the claim to issue.

Furthermore, claim 1 describes proceedings that are contrary to accepted wisdom in the art, which is evidence of nonobviousness. *In re Hedges*, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986). See also MPEP 2145X.D.3. Claim 1 describes measuring the frequency of an alternator output after rectification and comparing the frequency with a threshold value, which is in contrary to conventional wisdom, such as that suggested by the UK application, that prefers to determine frequency of an alternator output without rectification because the amplitude of an unrectified alternating signal is easier to observe than a rectified signal. Therefore, claim 1 is nonobvious.

Since there is no proper teaching or motivation to combine the UK application and Sievers, the UK application and Sievers cannot support a *prima facie* case of obviousness. In

addition, evidence exists to support that claim 1 is nonobvious over the references of record. Therefore, the obviousness rejection is untenable and should be withdrawn. Favorable reconsideration of claim 1 is respectfully requested.

Independent claims 4 and 18 also were rejected as being unpatentable over the UK application and Sievers. Similar to claim 1, claims 4 and 18 describe detecting a frequency component of the alternator output signal representative of a rectified output of an alternator, and comparing the frequency component with a threshold frequency. Thus, the obviousness rejection to claims 4 and 18 is also untenable and should be withdrawn based on the same reasons discussed relative to claim 1 as well as on their own merits. Favorable reconsideration of claims 4 and 18 is respectfully requested.

Claims 2, 3, 9 and 10 depend on claims 1 and 4, respectively, and incorporate every limitation thereof. As discussed earlier, claims 1 and 4 are patentable over the references of record. Therefore, claims 2, 3, 9 and 10 are also patentable based on the same reasons discussed relative to claims 1 and 4, as well as on their own merits. Favorable reconsideration of the claims is respectfully requested.

Claims 11-15 were rejected as being unpatentable over the UK application in view of Sievers and Bertness. Claims 11-15 depend on claim 4 indirectly and incorporate every limitation thereof. As discussed earlier relative to claim 4, the UK application and Sievers cannot be combined to support a prima facie case of obviousness. Bertness was cited by the Examiner for providing a database that stores threshold information, and does not alleviate the deficiencies of the UK application and Sievers. Therefore, the UK application, Sievers and Bertness cannot support a prima facie case of obviousness. Accordingly, the obviousness rejection of claims 11-15 is untenable and should be withdrawn. Favorable reconsideration of the claims is respectfully requested.

CLAIMS 5-8 AND 19-22 ARE PATENTABLE

Claims 5-8 and 19-22 were objected to for depending on a rejected claim, i.e., claims 4 and 18, respectively, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim. As discussed earlier, claims 4 and 18 are patentable over the references of record. Therefore, claims 5-8 and 19-22 are also patentable based on the same reasons discussed relative to claims 4 and 18, as well as on their own merits. The objection is traversed. Favorable reconsideration of the claims is respectfully requested.

CONCLUSION

Therefore, the present application claims subject matter patentable over the references of record and is in condition for allowance. Favorable consideration is respectfully requested. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Recognition under 37 CFR §10.9(b)

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